

BPSK31

- DEVELOPED IN 1998 BY PETER MARTINEZ G3PLX
- OLDER DIGITAL MODE THAT USES A COMPUTER SOUND CARD TO INTERFACE WITH A RADIO
- STILL POPULAR WORLD WIDE TODAY
- LIVE KEYBOARD TO KEYBOARD CHAT OPERATION
- HAS NO ERROR CHECKING OR SYNCHRONIZATION

- HIGH IMMUNITY TO NOISE AND QRM
- PARTICULARLY USEFUL IN POOR PROPAGATION CONDITIONS AND LOW SNR SITUATIONS
- 31 bps IS EQUAL TO 50 WPM TYPING SPEED
- VERY EFFICIENT, MANY HAMS USE LOW POWER LESS THAN 30 WATTS
- USES USB ON DESIGNATED FREQUENCIES FOR EACH OF THE HF BANDS

WHAT'S REQUIRED

- HF Radio Station
- Computer with a Sound card
- Free PSK31 program (many to choose from)
- An interface unit to isolate the radio from the computer



Digital Signals
100111001001

Push-to-Talk
&
Audio Signals

Radio Signals!



Sound Card Interface

Call Name Freq Pwr RST MyRST Note Log Clear Find

<<TX Ended - 3R nov 2R13 1R:3R:44 UTC>>
L7UDA reRLO DR
RSQ 599 599
name DloeRAR
qtdmr,N loc JO62TbbIQBC .toDLI RN3DLI
CQ de R3a LI CQ RN3DLI RN3Dxe
.. RN3DLI de UR4IPW UR4IPW UR4IPW pse K
se e git # aURDIPW de .N3DLI0RST (Q) 599 re9oo ,
AME Leoaid Leonid QoZ Solnechnogors

====
OK1LV de UX0UM 10:31:08z
Hello my friend !!
Report..599 599 + Qsb
Name..Nikolay Nikolay (61y)
Qth..Vasilkov Vasilkov about 30 km from the city of Kiev Ukraine
Lok..ko50de ko50de
Rda..ko-11 ko-11
How co

Spectrum Waterfall Input Data Sync Auto Text Select
RX1 RX2
200 Hz Slow Zoom X1 3500 Hz
Frequency RX1 860 RX2 2475 TX 1961
AFC AFC Net
Mode BPSK QPSK (usb)
RX1->TX Sw. to RX2->TX F11

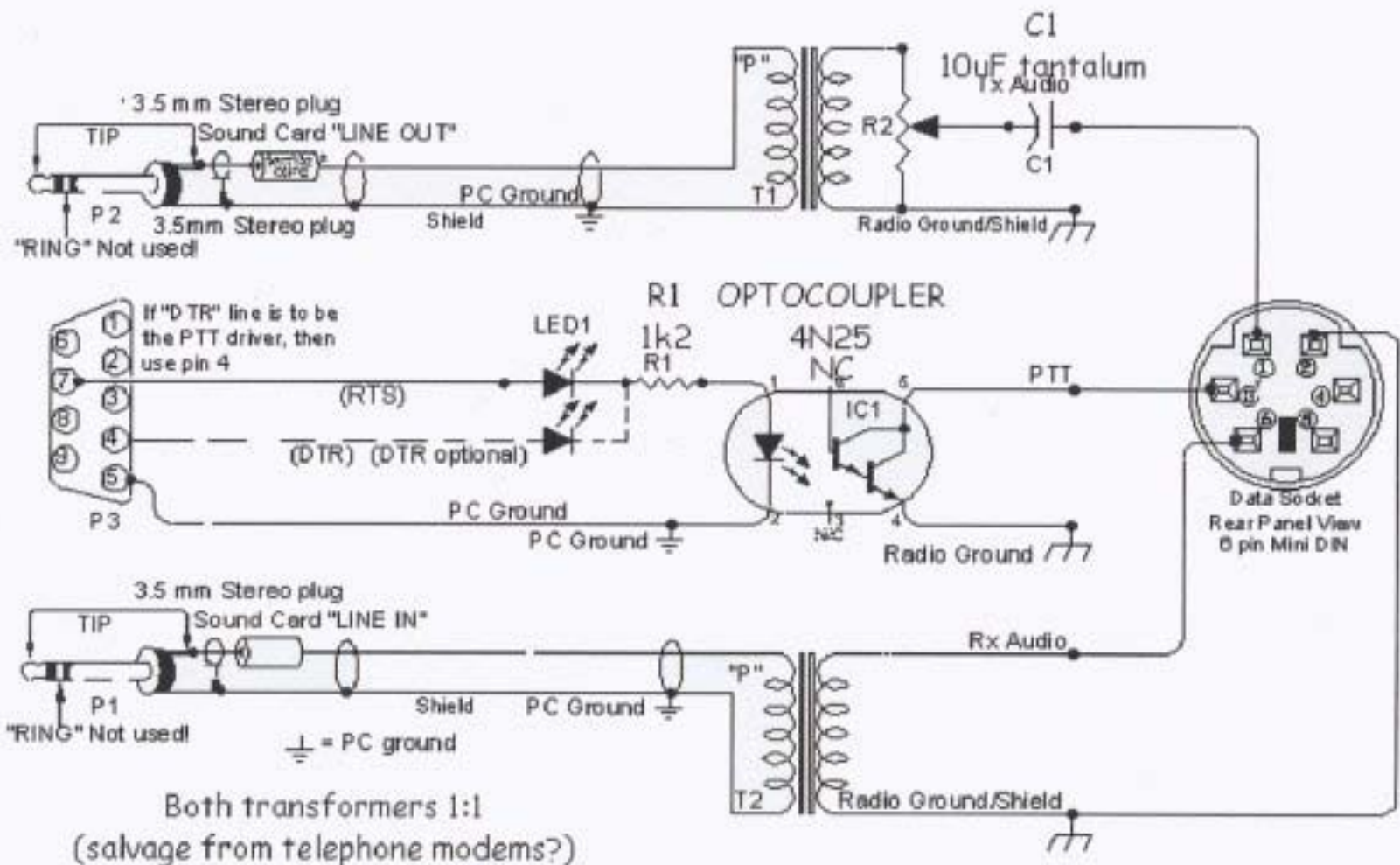
Phase RX1 RX2
(Rt-Click on Macros to Edit)
F1=QSO Start F6=Undefined
F2=QSO BTU F7=Undefined
F3=QSO Final F8=Undefined
F4=CQ F9=Undefined
F5=Brag File F10=Undefined
Macro Set = Set1
Text Grab

INTERFACE UNIT

- THREE SIGNALS REQUIRED, TRANSMIT AUDIO, RECEIVE AUDIO AND PTT
- SYSTEM CANNOT HAVE ANY GROUND LOOPS, HUM AND NO RF SIGNALS CAN GET INTO THE COMPUTER
- USE LINE LEVEL AUDIO SIGNALS AVAILABLE FROM RADIOS AUX CONNECTOR
- MANY INTERFACE UNITS AVAILABLE AND SIMPLE TO BUILD
- SOME UNITS HAVE SOUND CARDS BUILT INTO THEM SO NO COMPUTER SOUNDS WILL BE INADVERTENTLY TRANSMITTED AND AUDIO LEVELS WILL BE CONSTANT

INTERFACE UNIT

- AUDIO ADJUSTMENTS CRITICAL USE COMPUTER SOUND CARD CONTROLS
- ADJUST TRANSMIT AUDIO LEVEL SO TRANSMITTERS ALC SHOWS LITTLE OR NO EFFECT
- DO NOT USE ANY SPEECH COMPRESSION
- ADJUST RECEIVE AUDIO LEVEL FOR MODERATE DISPLAYED NOISE ON THE PROGRAMS SPECTRAL DISPLAY
- PSK31 HAS A 100% TRANSMIT DUTY CYCLE, MUST REDUCE POWER TO AT LEAST 50%



A proven audio interface: cheap and easy to build

VERY EFFICIENT

- Uses VARICODE.
- Common characters have shorter simpler codes.
- Letters and Numbers are 2 TO 8 characters long, keyboard functions are up to 11 characters long.
- Code favors lower case letters.
- High signal to noise level.
- Uses Viterbi decoder